

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
17 May 2001 (17.05.2001)

PCT

(10) International Publication Number  
**WO 01/34024 A1**

(51) International Patent Classification<sup>7</sup>: A61B 5/00,  
G01N 33/00

(21) International Application Number: PCT/US00/30692

(22) International Filing Date:  
8 November 2000 (08.11.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/164,250 8 November 1999 (08.11.1999) US

(71) Applicant: UNIVERSITY OF FLORIDA [US/US]; 223  
Grinter Hall, Gainesville, FL 32611 (US).

(72) Inventors: LAMPOTANG, Samsun; 3916 S.W. 98th  
Drive, Gainesville, FL 32608-4666 (US). MELKER,  
Richard; 6101 N.W. 19th Place, Gainesville, FL  
32605-3247 (US). TALTON, James, D.; P.O. Box  
13964, Gainesville, FL 32604-1964 (US). SILVER-  
MAN, David, N.; 4721 N.W. 17th Place, Gainesville, FL  
32605-3419 (US).

(74) Agents: McLEOD, Christine, Q. et al.; Saliwanchik,  
Lloyd & Saliwanchik, Suite A-1, 2421 N.W. 41st Street,  
Gainesville, FL 32606 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ,  
DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,  
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,  
NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,  
TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

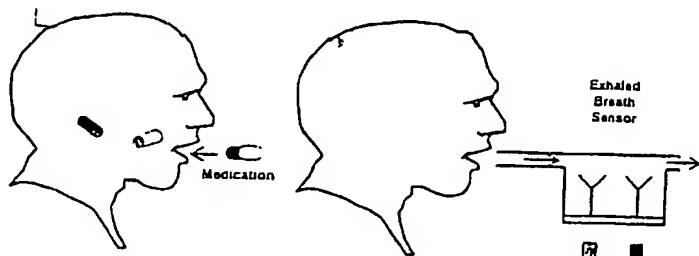
(84) Designated States (*regional*): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian  
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European  
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,  
IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF,  
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

**Published:**

- With international search report.
- Before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments.

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: MARKER DETECTION METHOD AND APPARATUS TO MONITOR DRUG COMPLIANCE



(57) Abstract: The present invention includes a method and apparatus for monitoring drug compliance by detecting markers, such as odors, upon exhalation by a patient after medication is taken, wherein such markers result either directly from the medication itself or from an additive combined with the medication. In the case of olfactory markers, the invention preferably utilizes electronic sensor technology, such as

the commercial devices referred to as "artificial noses" or "electronic noses", to non-invasively monitor compliance. The invention further includes a reporting system capable of tracking compliance (remote or proximate) and providing the necessary alerts.

WO 01/34024 A1